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EXAMINER

CHAUDHRY, SAEED T

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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 10/662,426  
Filing Date: September 16, 2003

\_\_\_\_\_  
Raj S. Dave  
For Appellant

**MAILED**  
**APR 13 2007**  
**GROUP 1700**

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed October 16, 2006 appealing from the Office action mailed April 21, 2006.

**Appellant (1) Real Party in Interest(s):** LEE ET AL.

A statement identifying by name the real party in interest is contained in the brief.

**(2) Related Appeals and Interferences**

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**(3) Status of Claims**

The statement of the status of claims contained in the brief is correct.

**(4) Status of Amendments After Final**

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

**(5) Summary of Claimed Subject Matter**

The summary of claimed subject matter contained in the brief is correct.

**(6) Grounds of Rejection to be Reviewed on Appeal**

Claims 1, 2 and 4-8 are rejected as being anticipated by Tateyama et al.

Claims 9 and 10 are rejected under 35 USC 103(a) as unpatentable over Tateyama et al.

**WITHDRAWN REJECTIONS**

The following grounds of rejection are not presented for review on appeal because they have been withdrawn by the examiner.

(1) Claims Rejections- 35 USC 112.

(a) Claim 9 for being rejected under 35 USC 112, first paragraph.

(b) Claims 1-10 and 20 for being rejected under 35 USC 112, second paragraph.

**(7) Claims Appendix**

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(8) Evidence Relied Upon**

Tateyama et al (US Pat. No. 5,375,291).

**(9) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

**Claims 1, 2 and 4-8 are rejected under 35 U.S.C. 102(b) as being anticipated by Tateyama et al.**

Tateyama et al (5,375,291) disclose an apparatus cleaning a disk like substrate comprising a burnishing object (42) positioned over the substrate, which rotates with a motor (41) and swung in the direction  $\Theta$  to translate and make an offset angle from the center of the substrate by a drive mechanism.

The object is not contacted with the substrate by air. The offset angle is changing while object is moving on the disk from outer to the inner diameter or in the reverse direction. The apparatus is capable of simultaneously translating and rotating. The object is capable of making a wiper blade motion since it move in  $\Theta$  direction.

A horizontal base 2 of the substrate-cleaning unit 38 is supported by four posts 3. A brush cleaner 5, an operation mechanism 6 and a spin chuck mechanism 40 are arranged on the horizontal base 2. The operation mechanism 6 serves to move a jet nozzle 13 and a brush 42 in the X and Z axes directions. The jet nozzle 13 is attached to the front end of an arm 17, which is supported by a mechanism 15. The arm 17 can be extended in the Y axis direction and swung in the direction  $\Theta$  by the mechanism 15.

The brush 42 is wound round a shaft 44 in a spiral. This spiral brush 42 can make its contact area with the wafer W larger than the disk brush. In addition, it can make its contact pressure against the wafer W more uniform than the roll brush. It is made of nylon or mohair. The shaft 44 is rotated round its center axis, extended in the Y axis direction and swung in the

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direction  $\Theta$  by a drive mechanism 41, which is connected to the operation mechanism 6 by a lifter base 43 and moved in the Z axis direction by the lifter base 43. The brush cleaner 5 serves to clean the brush 42 when the brush 42 is at its waiting position (see col. 3, line 62 through col. 4, line 15 and Fig. 2).

Tateyama et al discloses all the limitations as claimed herein, i.e. rotates the burnishing object in the direction of  $\Theta$ , and translates the burnishing object relative to the disk in the X direction. Therefore, Tateyama et al anticipated the claimed apparatus.

### **Claim Rejections - 35 USC § 103**

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

### **Claims 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over**

**Tateyama et al.**

Tateyama et al were discussed supra. However, the reference fails to disclose that burnishing object is a pad.

It would have been obvious at the time applicant invented the claimed apparatus to substitute a pad or a tape instead of a brush in the apparatus of Tateyama et al because it is matter

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of design and choice. It is well known in the art to interchangeably use brush with tape or pad for burnishing an article.

#### **(10) Response to Argument**

The appellant argued that the device arm 20 in Figure 2 of the specification can rotate with different offset angle and can also translate the burnishing object relative to the disk to advance a position of a contact of the burnishing object across the surface of the disk. On the other hand, the burnishing object of Tateyama, i.e., brush 42, can only rotate along the shaft 44 extending in the Y direction and swing in the direction  $\Theta$ , but it cannot translate along the Y direction.

These arguments are not persuasive because the claimed apparatus claims “translates the burnishing object relative to the disk”. Tateyama et al apparatus capable of translating in the X direction which is equivalent to translates relative to the disk. The claimed apparatus limitations does not specify the specific translating direction, which read on the Tateyama et al apparatus.

The appellant argued that Tateyama et al must disclose something within the scope of the limitation “a device that . . . translates the burnishing object relative to the disk to advance a position of a contact of the burnishing object across the surface of the disk” in order to anticipate claim 1.

This argument is unpersuasive because Tateyama et al apparatus is capable of translating in X direction, which is relative to the surface of the disk. Appellants arguments are not commensurate in scope with claims, See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Note that the manner or method in which a machine is to be utilized is not

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germane to the issue of patentability of the machine itself, (see In re Casey, 152 USPQ 235 (CCPA 1967)).

The appellant argued that substrate cleaning device of Tateyama et al require the burnishing object must rotate along the shaft 44 extending in the Y direction and swing in the direction  $\Theta$ . Both these requirements can only be met using a circular brush such as that Tateyama et al. neither a pad nor a tape could rotate along the shaft 44 of Tateyama et al.

This argument is not persuasive because claims do not specify the dimensions and shape of the tape or the pad. One of ordinary skill in the art would wrap around the shaft with a tape or pad instead of a brush for soft cleaning the surface of the disk.

**(11) Related Proceeding(s) Appendix**

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Saeed T. Chaudhry

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